EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, APRIL, 1930

By J. B. KINCER

General summary.—During the first decade moderate temperatures and generally fair weather made conditions favorable for farm work, except in the Southeast, where frequent rains interfered, and in the Southwest, where the soil was too dry. Rains in the Middle Atlantic States were favorable, but farther south they were too frequent and kept the gound too wet. The soil was becoming rather dry generally outside of this area, though deficiencies in moisture were not serious, except in the Southwest. In western grazing sections warm weather was generally beneficial for stock interests, particularly for lambing, but in the Southwest, especially in Kansas and Oklahoma, the drought was intensified, with conditions serious.

During the second decade rains materially improved soil condition in the Atlantic States, the northern and western Ohio Valley, and a large area of the central-north. Showers were largely local in character in the Southwest, with droughty conditions still unrelieved in much of Kansas, central and western Oklahoma, and western Texas. In general, conditions were mostly favorable over the northern half of the country, with rains helpful; in the South farm work progressed rapidly, although rains would have helped in many parts.

During the last decade there were two overshadowing features of the weather—damaging frost in the East and beneficial rains in the Southwest. In the Eastern States, especially the Appalachian Mountain sections, frost and freezing temperatures did extensive and in many places severe harm to fruit and truck crops. There was also more or less damage over a large area from western North Carolina, southwest Virginia, and eastern Kentucky northward to Pennsylvania. Over the western half of the country the period was generally favorable, the widespread rains in many sections being especially beneficial. In the Southwest a few limited areas were still dry, but, in general, the drought was largely relieved.

Small grains.—During the first two decades there was little change in the condition of winter wheat in the Southwest, especially in western Texas, Oklahoma, and most of Kansas, with the drought unrelieved and the crop deteriorating in many parts. Condition of wheat was very spotted in this area, ranging from very poor to only fair, although in some sections of Kansas the crop was holding up well, with jointing reported from the Southeast. Outside of this droughty region winter wheat progress and condition varied widely, with good advance in the northwestern parts of the belt, but slow growth in the Ohio Valley, although rains were helpful in the latter area. During the last decade the drought in the Southwest was generally broken, with heavy rains over practically all parts of Oklahoma and beneficial falls in Texas and Kansas. Parts of southwestern Kansas still needed moisture, but much of the wheat crop revived and showed marked improvement. Except for some need of rain over central and eastern parts of the Winter Wheat Belt, the crop was making satisfactory advance at the close of the month.

The condition of oats closely paralleled that of winter wheat, while spring oat and barley seeding had been largely finished at the close of the month. Spring-wheat seeding was mostly completed, with much up and looking well, while other small-grain crops were making satisfactory progress.

Corn.—While moderately warm and mostly sunny weather was favorable for field operations in the Corn Belt during the first decade, frequent showers and low temperatures caused considerable delay to planting and preparations during the latter part of the month. Seed beds had been prepared in Iowa, but only a small amount of corn had been planted, while the early-planted crop was not coming up.

Cotton.—During the first decade cotton planting made good advance in Texas, but warm rains were needed for germination; in Oklahoma seed beds had been prepared, but the drought delayed planting. In central and eastern parts of the belt planting made good headway, except in the extreme Southeast, where it was too wet. During the second decade continued dry soil in the western Cotton Belt further delayed planting, although some was put in western Texas, where germination was hindered by dry soil and low temperatures. The soil continued too dry for germination in Oklahoma, but in central parts of the belt field work made rather good progress, while planting was active in more eastern portions. Rainfall during the last decade in the western Cotton Belt decidedly improved the condition of the soil, but the central and some eastern parts were beginning to need rain. Planting continued in Texas, while seeding operations in Oklahoma were only awaiting drier soil. A good, general warm rain was needed in central and some eastern parts of the belt.

Miscellaneous crops.—Except for droughty conditions in the Southwest, range and livestock conditions were largely satisfactory throughout the country during the month, although the low temperatures retarded growth of pastures in the East. Lambing was favored quite generally, while shearing advanced satisfactorily.

During the first two decades potatoes and truck crops did well, with planting of the former advancing to the northern portions of the country. The frost during the last decade caused some injury to potatoes and truck in the Ohio Valley and adjacent sections, but elsewhere these crops did well. There was rather extensive frost injury to fruit reported over a wide area embracing the Appalachian Mountain districts, the Ohio Valley, the Lake region, and the Northeast, although later reports indicated that the early fears were rather pessimistic, especially in the central Appalachian area. Outside of these sections, fruit did well, except for some local dropping.

WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

NORTH ATLANTIC OCEAN

By F. A. YOUNG

The weather over the North Atlantic during April was marked by few unusual features, and the number of days with gales was not far from the normal over the greater part of the ocean. As shown by Table 1, the monthly pressure departures were comparatively small, and, with the exception of Horta, the range in barometric readings not unusually large.

The number of days in which fog was reported in different localities was as follows: Over the Grand Banks on 13 days; along the American coast between the thirty-fifth and forty-fifth parallels, from 7 to 10 days; in the Gulf of Mexico, from 1 to 4 days; over the steamer lanes, east of the forty-fifth meridian, on from 1 to 4 days.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure at sea level, 8 a. m. (seventy-fifth meridian). North Atlantic Ocean, April, 1930*

Stations	Average pressure	Departure	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Belle Isle, Newfoundland	29.86	+[1] 0.03	30.24	19th	29.38	4th.
Halifax, Nova Scotia	29.94	+[2] 0.01	30.56	15th	29.28	3d.
Nantucket	30.01	+[2] 0.04	30.60	17th	29.26	7th.
Hatteras	30.07	+[2] 0.04	30.42	10th	29.62	7th.
Key West	30.01	−[2] 0.02	30.22	11th	29.84	25th.
New Orleans	30.06	+[2] 0.02	30.34	10th	29.90	3d.
Cape Gracias, Nicaragua	29.91	−[1] 0.06	29.98	2d [3]	29.80	30th.
Turks Island	30.08	+[1] 0.06	30.18	12th	29.96	24th.[3]
Bermuda	30.11	+[2] 0.02	30.28	6th[3]	29.68	4th.
Horta, Azores	30.17	+[1] 0.06	30.62	9th	29.04	21st.
Lerwick, Shetland Islands	29.89	+[1] 0.09	30.37	27th	29.21	13th.
Valencia, Ireland	29.85	−[1] 0.04	30.30	16th	29.04	1st.
London	29.87	−[1] 0.07	30.23	8th	29.42	3d.

[1] From normals shown on Hydrographic Office Pilot Charts, based on observations at Greenwich mean noon, or 7 a. m., seventy-fifth meridian time.
[2] From normals based on 8 a. m. observations.
[3] And on other date or dates.

Results at Julianehaab, Greenland, are not given, as reports were received from that station for only 13 days of the month.

The disturbance that on March 31 was over the middle and eastern sections of the steamer lanes on April 1 was central near 50° N., 20° W. While the storm area had contracted somewhat in extent, wind of force 7 to 10 still prevailed east of the thirty-fifth meridian. On the 2d this LOW was central near 55° N., 15° W., and while low barometric readings were still reported from vessels near the center the force of the wind had decreased considerably in intensity, few gales being reported from that section of the ocean.

On the 3d the coast of southern Europe was swept by moderate to whole gales, the storm area extending as far west as the fifteenth meridian.

On the 2d and 3d a depression central over the Maritime Provinces was responsible for westerly gales in the southerly quadrants.

Charts VIII to XI cover the period from the 4th to 7th, inclusive, and Chart XI gives an idea of the unusual conditions that prevailed on the 7th, when westerly gales occurred over the northern quadrant of the North Atlantic HIGH, accompanied by comparatively high barometric readings.

From the 8th to 20th there ensued a period of comparative inactivity over the ocean as a whole, although a number of vessels in widely scattered localities encountered gales, as shown by reports in table. On the 11th the Danish steamship *Viborg* reported a westerly gale in the Gulf of Mexico, as shown in table, and on the 15th northerly gales were also reported from the vicinity of the Straits of Gibraltar.

On the 17th the North Atlantic HIGH was unusually well developed, and anticyclonic conditions also prevailed over northern New England, with a barometric reading of 30.70 at Portland, Me.

On the 21st the region usually occupied by the North Atlantic HIGH was covered by an area of low pressure, central near Horta, where the barometer read 29.04 inches; this LOW was accompanied on the 21st and also 22d by moderate to strong gales between the thirty-fifth and fiftieth parallels.

From the 23d to 28th moderate weather was the rule, with the exception of moderate disturbances on the 23d and 28th, the former being central about 300 miles north of the Madeiras and the latter about 500 miles north of the Azores.

On the 29th a LOW was central near 47° N., 48° W., that increased rapidly in intensity as it moved eastward, and on the 30th, when the center was near 50° N., 42° W., moderate to strong westerly gales prevailed over the steamer lanes between the thirtieth and forty-fifth meridians.

OCEAN GALES AND STORMS, APRIL, 1930

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Highest force of wind and direction	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN			° ′	° ′				*Inches*					
Tankschindler, Ger. S. S.	Curacao	Ardrossan	48 54 N	21 29 W	Mar. 30	8 a, 1	Apr. 1	28.35	WSW	WSW, 10	W	WSW, 10	Steady.
Steel Traveler, Am. S. S.	Gibraltar	New York	35 45 N	29 04 W	Apr. 1	10 p, 1	Apr. 2	29.58	SW	W, 9	NW	W, 9	SW-W-NW.
Extavia, Am. S. S.	Palermo	do	39 06 N	68 00 W	Apr. 2	7 p, 2	Apr. 3	29.62	W		NW	WNW, 10.	
Ampetco, Belg. M. S.	Antwerp	Baton Rouge	44 17 N	14 00 W	do	6 p, 2	do	28.72	SE	NW, 11	WNW	NW, 11	
Atlanta City, Am. S. S.	Port Said	Charleston	35 26 N	20 03 W	Apr. 1	5 a, 2	do	29.72	WSW	SW, 9	NW	SW, 10	W-WSW.
West Elcasco, Am. S. S.	Houston	Venice	38 55 N	55 41 W	Apr. 2	2 a, 3	do	29.68	S	ESE, 8	W	S, 10	
Haarlem, Du. S. S.	Amsterdam	Curacao	45 23 N	9 20 W	do	3 a, 3	do	28.79	ESE	SW, 11	WNW	WNW, 12.	SW-W-WNW.
Novian, Br. S. S.	Liverpool	Boston	41 50 N	60 01 W	Apr. 4	6 p, 4	Apr. 5	28.48	E	N, —	WNW	N, 12	SE-E-N.
America, Am. S. S.	Cobh	New York	41 44 N	59 26 W	do	7 p, 4	do	28.41	S	SW, 8	NNW	NNW, 12.	SW-N-NNW.
Cingalese Prince, Br. M. S.	Port Said	Boston	41 06 N	52 22 W	Apr. 3	4 a, 5	do	29.09	WSW	SSW, 10	WNW	SW, 12	SSW-W-NNW.
Bellepline, Am. S. S.	Antwerp	New York	45 58 N	39 12 W	Apr. 5	11 p, 5	Apr. 7	29.40	S	WSW, 9	N	WSW, 11.	SW-WSW.
West Harcuvar, Am. S. S.	Bremen	Boston	43 45 N	40 25 W	do	4 a, 6	Apr. 6	29.60	WSW	W, 10	WNW	W, 10	
New Brighton, Br. S. S.	Africa	Philadelphia	34 45 N	67 15 W	Apr. 6	8 a, 7	Apr. 9	29.79	SE	SW, 10	NW	—, 12	SE-S-W-NW.
Exilona, Am. S. S.	New York	Piraeus	40 15 N	66 21 W	do	Noon, 7	Apr. 7	29.62	S	S, —	SSW	S, 11	S-SSW.
Tomalva, Am. S. S.	Newport News.	Rotterdam	44 52 N	37 23 W	Apr. 4	10 a, 7	do	29.64		S, 6	W	—, 11	S-SW-WNW.
Examelia, Am. S. S.	Gibraltar	New York	37 08 N	52 00 W	Apr. 9	4 p, 9	Apr. 10		S	S, 7	SW	S, 9	S-SW-W.
Viborg, Dan. S. S.	New Orleans	Port Limon	24 18 N	86 08 W	Apr. 11	10 a, 11	Apr. 12	30.07	ENE	ENE, 8	E	ENE, 9	Steady.
West Elcasco, Am. S. S.	Houston	Venice	38 35 N	15 43 W	Apr. 10	4 p, 11	do	29.84	NNW	NNW, 9	N	NNW, 9	NNW-NNE.
Julius Schindler, Ger. S. S.	Hamburg	Curacao	32 38 N	41 45 W	Apr. 11	6 a, 12	do	29.88	ESE	SE, 10	SSW	SSE, 11	ESE-SSW.
Burgerdijk, Du. S. S.	Norfolk	Rotterdam	42 37 N	42 00 W	Apr. 17	4 p, 17	Apr. 17	29.82	SSE	SSW, 9	NW	SSW, 9	SSW-NW.
West Keene, Am. S. S.	Gibraltar	New York	34 47 N	27 21 W	Apr. 20	3 p, 21	Apr. 22	28.71	SW	SW, —	W	—, 12	SW-NW.
Sarcoxie, Am. S. S.	Havre	do	42 33 N	50 10 W	Apr. 21	8 a, 21	do	29.64	W	W, 3	W	W, 9	Steady.
Yaka, Am. S. S.	Gibraltar	Boston	36 13 N	15 24 W	do	3 a, 23	Apr. 23	28.97	SSW	SW, 12	NW	SW, 12	SSW-SW.
Exton, Am. S. S.	Palermo	New York	37 00 N	1 00 W	Apr. 28	4 a, 29	Apr. 30	29.63	WSW	WSW, 9	SW	SW, 9	WSW-SW.
New York, Ger. S. S.	Hamburg	do	44 40 N	39 00 W	Apr. 29	Mdt, 29	do	29.33	SE	SW, 9	NW	W, 10	SW-W.
Volendam, Du. S. S.	Rotterdam	do	45 56 N	35 25 W	Apr. 30	4 p, 30	May 1	29.34	SSE	SW, 9	W	W, 10	WSW-W.

Ocean gales and storms, April, 1930—Continued

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Highest force of wind and direction	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH PACIFIC OCEAN			° ′	° ′				*Inches*					
Patrick Henry, Am. S. S.	Formosa	Honolulu	26 00 N	178 40 E	Mar. 30	4 p, 1	Apr. 1	30.04	ENE	NNE, 8	NNE	NE, 9	Steady.
Emp. of Canada, Br. S. S.	Yokihama	Vancouver	50 34 N	148 54 W	do	8 p, 2	Apr. 2	29.35	W	W, 7	W	NW, 9	WSW-NNW.
Radnor, Am. S. S.	do	San Pedro	35 07 N	143 21 E	do	10 a, 3	Apr. 3	29.43	NE	S, 4	NW	NE, 11	SE-NE-NW.
Tamaha, Br. S. S.	San Pedro	Yokohama	33 55 N	141 30 E	Apr. 2	10 a, 2	do	29.45	ENE	ENE, 11	NW	NNE, 12	NE-N.
Petricola, Br. S. S.	Singapore	do	33 02 N	136 57 E	do	8 a, 2	do	29.90	ENE	NE, 9	NW	NE, 9	Steady.
Stuart Dollar, Am. S. S.	Nagoya	Los Angeles	35 03 N	142 05 E	do	2 a, 3	Apr. 4	29.56	NE	NE, 11	NW	NE, 12	NE-NNE.
Hamburg Maru, Jap. S. S.	Kobe	San Francisco	40 27 N	151 59 E	do	4 a, 4	do	29.69	ENE	SSE, 8	S	SSE, 9	SSE-S.
Pres. Lincoln, Am. S. S.	Seattle	Yokohama	37 05 N	143 00 E	Apr. 3	Noon, 3	Apr. 3	29.69	NE	N, 9	NNW	N, 10	NE-N-NNW.
Akagisan Maru, Jap. M. S.	Yokohama	San Francisco	43 12 N	141 00 W	do	8 p, 3	do	29.11	S	S, 9	S	S, 10	Steady.
Pennsylvania, Am. S. S.	Portland	Yokohama	43 39 N	152 15 E	do	Noon, 4	Apr. 4	29.56	WSW	S, 7	WSW	W, 9	SE-S-SW.
Mayebashi Maru, Jap. S. S.	Yokohama	San Francisco	39 00 N	148 00 E	Apr. 9	6 p, 9	Apr. 10	29.17	W	WNW, 8	NW	NW, 9	2 pts.
Yomachichi, Am. M. S.	Hong Kong	San Pedro	36 10 N	152 40 E	do	10 p, 9	Apr. 11	29.61	SSW	WNW, 8	NNW	NW, 9	SSW-W-WNW.
Do	do	do	38 50 N	158 10 W	Apr. 15	4 a, 18	Apr. 19	29.95	NW	NNW, 9	N	NNW, 9	NW-NNW-N.
Tamaha, Br. S. S.	Yokohama	do	38 32 N	157 35 E	Apr. 10	7 a, 10	Apr. 11	29.05	SW	WSW, 9	NW	WNW, 11	WSW-W-WNW.
Wilhlemina, Am. S. S.	Seattle	Honolulu	42 20 N	136 27 W	Apr. 13	2 a, 13	Apr. 15	29.51	NW	NW, 8	SW	SSE, 9	N-NW.
Mishima Maru, Jap. S. S.	Yokohama	Victoria	35 09 N	140 43 E	Apr. 15	Mdt, 15	Apr. 16	29.50	NNE	NNW, 9	NW	NNW, 9	NNE-N-NNW.
Stanley Dollar, Am. S. S.	Sagay	Los Angeles	39 27 N	166 00 E	Apr. 16	2 p, 17	Apr. 18	29.38	E	SW, 8	W	W, 9	S-SW-WSW.
Frank G. Drum, Am. S. S.	Yokohama	San Francisco	45 20 N	169 30 E	do	5 a, 18	Apr. 19	28.76	SE	SW, 9	W	SW, 10	S-SW.
Aden Maru, Jap. S. S.	Iloilo	San Pedro	41 10 N	169 10 E	do	5 p, 17	do	28.99	E	SSW, 8	WSW	W, 9	S-SSW.
Olympia, Am. S. S.	Tacoma	Yokohama	48 45 N	170 30 E	Apr. 17	6 a, 21	Apr. 21	28.84	SE	ESE, 6	ESE	ESE, 9	ESE-SSE.

NORTH PACIFIC OCEAN

By WILLIS E. HURD

The average atmospheric pressure over the Aleutian Islands and the Gulf of Alaska for April continued with little change from that of March. The center of the Aleutian cyclone remained in the neighborhood of Kodiak, where the pressure was 29.72 inches, but over a considerable region which extended well into the Bering Sea, the average reading was below 29.80 inches. At the beginning of the month the Aleutian cyclone was rather deep and energetic over the Gulf of Alaska, the minimum barometer readings at stations along the coast from Kodiak to Juneau being close to 29 inches—slightly lower at Kodiak—on the 2d. After the decadence of this manifestation of the semipermanent northern cyclone on the 6th, no other deep depression appeared in the north until the 28th, when pressures dropped to 28.38 and 28.40 inches, at Dutch Harbor and St. Paul, respectively. This intensified cyclone lost energy rapidly, however, and entered Alaska on the 30th as a shallow depression.

The California-Pacific anticyclone reached its highest and steadiest development in the general neighborhood of Midway Island, where it was practically unbroken by intruding Lows. Between the Hawaiian Islands and the American mainland it occupied most of the middle latitudes, but was disrupted on several days by depressions of moderate energy, though of considerable size.

Barometric data for several island and coast stations in west longitudes, including Point Barrow on the Arctic Ocean, are given in the following table:

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure at sea level at indicated hours, North Pacific Ocean and adjacent waters, April, 1930*

Stations	Average pressure	Departure from normal	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Point Barrow [1]	30.13		30.54	23d	29.68	29th.
Dutch Harbor [1 2]	29.81	−0.02	30.22	17th	28.38	28th.
St. Paul [1]	29.76	−0.04	30.26	17th	28.40	28th.
Kodiak [1]	29.72	−0.08	30.28	12th	28.86	2d.
Midway Island [1]	30.17	+0.07	30.32	2d	29.96	26th.
Honolulu [3]	30.06	0.00	30.17	28th	29.92	21st.
Juneau [3]	29.87	−0.09	30.30	10th	29.13	2d.
Tatoosh Island [3 4]	29.98	−0.06	30.26	10th	29.59	27th.
San Francisco [3 4]	30.02	−0.02	30.27	4th	29.66	30th.
San Diego [3 4]	29.97	+0.01	30.17	3d	29.77	30th.

[1] P. m. observations only.
[2] For 29 days.
[3] A. m. and p. m. observations.
[4] Corrected to 24-hour mean.

After the considerable storminess occurring over the ocean during the preceding six months, April saw the North Pacific comparatively free from tempestuous winds. The majority of gales reported by our observers did not exceed force 9 on the Beaufort scale. Of the few more violent gales—forces 11 and 12—the most important resulted from a typhoon which passed the southeast coast of Hondo during the 2d and 3d of the month. At this time, although winds of hurricane force were experienced by vessels 100 miles or less south and east of Yokohama, no pressures lower than 29.43 inches were reported as read. This cyclone appeared as a depression between southern Japan and the Ogasawara Islands at the end of March, but did not become severe